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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,241	08/26/2003	Joachim Thiel	241978US	1765
22850	7590	05/25/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			MANOHARAN, VIRGINIA	
			ART UNIT	PAPER NUMBER
			1764	
DATE MAILED: 05/25/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/647,241

Applicant(s)

THIEL ET AL.

Examiner

Virginia Manoharan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 March 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-11 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a). The claims are rejected for the same reasons as set forth at sections c) and d), page 3 of the previous Office action. [ Since section c) has not been addressed by applicants, it is assumed they are acquiescing therein. Also, the claimed "mass transfer trays" is broadening the "at least some of the sieve trays", previously recited in claim 1, as it could also read on other trays, e.g., a valve tray. Claim 3 would also be at odds with claim 1. Note e.g., the claimed hydraulically sealed crossflow trays and valve trays in claim 3, as opposed to the claimed "sequence of sieve trays" in claim 1 .

b). The inconsistent used of terminology in the claims is improper. For example: "at least one liquid stream" in claim 1, line 2, as opposed to "the liquid stream" in claim 10.

c). The claimed "the product gas mixture.." in claim 11 lacks proper antecedent support.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the claimed "adjusting the streams so that .." is not positively recited in the specification.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al (6,294,056) in view of Yu et al (6,345,811).

The above references are applied for the same combined reasons as set forth at page 4, first full paragraph of the previous Office Action.

Applicants' arguments filed March 14, 2006 have been fully considered but they are not persuasive.

However, the unexpected advantages indicated in Examples 1 and 2 disclosed on pages 14-15 of the specification text, alluded to by applicants, is not unexpected, but expected. As admitted by applicants "...the disclosure of US " 811 considers an entrainment fraction of 5-10% as being disadvantageous...". This, tells an artisan that an optimum entrainment fraction values exists. Any experimentation done to find this optimal range is of the essence within the skilled of the art. This is recognized by applicants. See e.g., page 5, lines 5-6, of the present specification reciting that " In principle, the entrainment fraction of a sieve tray in an operating separating column (carrying out a thermal separating process) can be determined experimentally..." Furthermore, one would not know what parameters, conditions or other steps distinguishes applicants' process in obtaining the claimed results that are not disclose or

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cannot be achieved, especially since the prior art discloses the broad claimed thermal separating process. Nonetheless, the Examples in the specification is not based on a comparative study with the applied closest prior art. Applicants also fail to delineate process steps not shown nor render obvious by the prior art.

Thus, in the absence of anything which may be “new” or “unexpected result.” a prima facie case of obviousness has been reasonably established by the art and has not been rebutted. Unexpected results must be established by factual evidence. Mere arguments or conclusory statements in the specification, applicants’ amendments, or the Brief do not suffice. In re Linder, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1872). In re Wood, 582, F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978).


Applicant’s amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is 571-272-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
VIRGINIA MANOHARAN  
PRIMARY EXAMINER  
ART UNIT 1764  
5/24/06